

## Scoring Rubric for Math Fundamentals - *Pick a Spinner*

For each category, choose the level that *best describes* the student's work

	Novice	Apprentice	Practitioner	Expert
<b>Problem Solving:</b>				
<b>Interpretation</b>	Does not show much understanding of the problem.	Shows some understanding of the math in the problem.  Completes part of the problem.	Understands the relationship between the spinner design and the theoretical expected results.  Bases answer on the tally distribution.  Makes a reasonable attempt to solve the main problem.  <b>Answer: Spinner D</b>	Achieves at least Practitioner in Strategy.  In addition to solving the main problem correctly, also correctly solves the Extra: <ul style="list-style-type: none"> <li>• <b>Spinner C: red = 1/3, blue = 1/3, white = 1/3.</b></li> <li>• <b>Spinner D: red = 1/4, blue = 1/2, white = 1/4.</b></li> </ul>
<b>Strategy</b>  <i>(NB: based on their interpretation of the problem)</i>	Does not know how to set up the problem. OR Shows no evidence of strategy.	Tries a strategy that makes sense, but isn't enough to solve the whole problem, OR doesn't apply it systematically.	Picks a sound strategy.  Approaches the problem systematically, achieving success through skill, not luck.  Chosen strategy accounts for any answer(s) that changed after checking our answers.	Correctly uses fractions and/or percentages to compare tallies and spinners.  Uses a good strategy for the Extra.  Uses an unusual or sophisticated strategy, e.g., effective and appropriate use of technology.
<b>Accuracy</b>  <i>(NB: based on the chosen strategy)</i>	Has made many errors. OR Shows no math.	Some work is accurate. May have one or two errors.	Work is accurate and contains no arithmetic mistakes.	Not available for this problem.
<b>Communication:</b>				
<b>Completeness</b>  <i>(NB: an incorrect solution can be complete)</i>	Writes very little to explain how the answer was achieved.	Provides explanation but does not include calculations; OR Shows calculations without explanation about why they were done.	Explains most of the steps taken to solve the problem and the rationale for them.  Shows how she/he knows the answer is correct.  Explanation covers any answer(s) that changed after checking our answers.	Includes useful extensions and further explanation of concepts or patterns, e.g., role of sample size in comparing theoretical/experimental results.  Provides exceptional insight into the problem.  Includes a table of data.
<b>Clarity</b>  <i>(NB: incomplete and incorrect solutions can be explained clearly)</i>	Explanation is very difficult to read and follow.	Explanation isn't totally unclear, but another student wouldn't be able to follow it easily.  Spelling errors/typos make it hard to understand.	Explains the steps in such a way that another student would understand.  Uses level-appropriate math language, including correct units: spins, tallies  Shows effort to use good formatting, spelling, and typing. Errors don't interfere with readability.	Formatting makes ideas exceptionally clear.  Answer is very readable and appealing, might include a helpful diagram or table. (A diagram or table alone doesn't qualify for Expert status.)
<b>Reflection</b>  <i>(See list below)</i>	Does nothing reflective.	Includes one reflective thing.	Includes two reflective things.	Includes three or more reflective things or does an exceptional job with two of them.
	<b>The items in the columns to the right are considered reflective, and could be in the solution or the comment they leave after viewing our answer:</b>	Shows how she/he checked the answer <b>using a different method.</b>  Reflects on the reasonableness of their answer.  Summarizes the process they used.	Connects the problem to prior knowledge or experience.  Explains where she/he is stuck.  Explains a hint she/he would give someone.	Comments on <b>and</b> explains the ease or difficulty of the problem.  <b>Revising and improving anything counts as reflection.</b>